PATEN'

Serial No: 09/943,262

Docket No: 1743-193

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A scanning charged-particle microscope having a charged-particle source,

a lens for focusing a charged-particle beam emitted from said charged-particle source, and

a scanning deflector for scanning said charged-particle beam in two-dimensional form on a sample,

wherein said scanning charged-particle microscope includes a passage aperture for limiting the passage of the charged-particle beam is located between the charged-particle source and said scanning deflector, and a member for limiting the passage of the charged-particle beam is provided at least in the center of said passage aperture,

said lens focusing the charged particle beam such that a plurality of differential parts of the charged particle beam passing through the passage aperture converges one point on the sample simultaneously,

said scanning deflector scanning the converged charged particle beam, and an image of said sample is obtained by scanning said charged-particle beam having passed through said passage aperture on said sample using said scanning deflector.

- 2. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 1 above, wherein the scanning charged-particle microscope is characterized in that <u>has</u> the half-opening angle of said aperture for said charged-particle beam focused on a sample by said focusing lens has a band with respect to specific values of α_a and α_b .
- 3. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 1 above, wherein the scanning charged-particle is characterized in that has said passage aperture is formed in a plate-like body, and in that said plate-like body is formed movably with respect to said charged-particle beam.

PATENT

Serial No: 09/943,262 Docket No: 1743-193

4. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 3 above, wherein the scanning charged-particle microscope is characterized in that has said plate-like body is provided with a circular aperture in addition to said passage aperture.

5. (Currently Amended) A scanning charged-particle microscope having a charged-particle source,

a lens for focusing a charged-particle beam emitted from said charged-particle source on a sample with a half-opening angle which defines an irradiation angle of the charged particle beam against an optical axis of the charged particle beam,

a scanning deflector for scanning said charged-particle beam in two-dimensional form on a sample,

wherein said scanning charged-particle microscope includes a member located between the charged-particle source and said scanning deflector, the member having a limiting part which limits the charged particle beam having the half-opening angle being from zero degrees to α_b degrees and allows the charged-particle bean having the half opening angle being from α_b to α_a degrees ($\alpha_b > \alpha_b$) to pass the member

said lens focusing the charged particle beam such that a plurality of differential parts of the charged particle beam having the half opening angle being from α_b degrees to α_a degrees converges one point on the sample, simultaneously,

said scanning deflector scanning the converged charged particle beam, and an image of said sample is obtained by scanning said charged-particle beam which is cut off, the half opening angle being from α_b degrees to α_a degrees.

- 6. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 5 above, wherein the scanning charged-particle microscope is characterized in that has a plate-like aperture body in which an annular aperture is formed is provided between said charged-particle source and said scanning deflector.
- 7. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 6 above, wherein the scanning charged-particle microscope is characterized in that has in addition to said annular aperture, a circular aperture is provided in said plate-

PATENT

Serial No: 09/943,262

Docket No: 1743-193

like aperture body, and in that there is provided a movement feature for positioning said annular aperture and said circular aperture on the orbit of said charged-particle beam.

8. (Currently Amended) A scanning charged-particle microscope having a charged-particle source,

a lens for focusing a charged-particle beam emitted from said charged-particle source, and

a scanning deflector for scanning said charged-particle beam in two-dimensional form on a sample,

wherein said scanning charged-particle microscope includes an aperture, located between the charged-particle source and said scanning deflector, for limiting the passage of said charged-particle beam formed in two different places on the orbit thereof, and one of said two apertures is an annular aperture and the other is a circular <u>aperture</u>,

said lens focusing the charged particle beam such that a plurality of differential parts of the charged particle beam passing through the passage apertures converge one point on the sample,

said scanning deflector scanning the converged charged particle beam, and an image of said sample is obtained by scanning said charged-particle beam having passed through said annular aperture on said sample using said scanning deflector.

- 9. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 8 above, wherein the scanning charged-particle microscope is characterized in that in said annular aperture is formed in a plate-like body, in that said plate-like body is also provided with a circular aperture, and in that there is provided a movement feature for positioning the annular aperture and the circular aperture on the orbit of said charged-particle beam.
- 10. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 8 above, wherein the scanning charged-particle is characterized in that in said circular aperture is formed in a plate-like body, in that said plate-like body is also provided with a charged-particle beam cutoff portion, and in that there is provided a movement feature for positioning said charged-particle beam cutoff portion and said circular aperture on the orbit of said charged-particle beam.

PATENT Serial No: 09/943,262

Docket No: 1743-193

11. (Currently Amended) A scanning charged-particle microscope as set forth in Claim 8 above, wherein the scanning charged-particle microscope is characterized in that has said circular aperture and said annular aperture are formed in a first plate-like body and a second plate-like body, respectively, in that said first plate-like body is provided with a charged-particle beam cutoff portion in addition to the circular aperture and said second plate-like body is provided with a circular aperture in addition to the annular aperture, and in that both the first plate-like body and the second plate-like body are provided with a movement feature.

- 12. (Previously Presented) A samples image forming method using a scanning charged-particle microscope having
 - a charged-particle source,
- a lens for focusing a charged-particle beam emitted from said charged-particle source.

a scanning deflector for scanning said charged-particle beam in two-dimensional form on a sample,

comprising acquiring the image of a sample by scanning said charged-particle beam having passed through an annular aperture on said sample using said scanning deflector, and focusing the charged particle beam with the lens such that a plurality of differential parts of the charged particle beam pass through the annular aperture to converge one point on the sample, said annular aperture being positioned on the orbit of the charged-particle beam and between said charged particle source and said scanning deflector, to form a new samples image.